The Current U.S. Recession and the Risks of a Systemic Financial Crisis

by

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A vicious circle is currently underway in the United States, and its reach could broaden to the global economy. America's financial crisis has triggered a severe credit crunch that is making the U.S. recession worse, while the deepening recession is leading to larger losses in financial markets, thus undermining the wider economy. There is now a serious risk of a systemic meltdown in US financial markets as huge credit and asset bubbles collapse.

At this point the debate in the U.S. is no longer about soft landing versus hard landing (recession); it is rather on how hard the hard landing will be. An analysis of the macro data published in recent weeks suggests that the economy has already entered into a recession in December 2007. So the question now is whether this recession is going to be relatively short and shallow (lasting two quarters in Q1 and Q2 of 2008 as several analysts suggest) or much longer, deeper and more protracted (four to six quarters).

The fact that the US is now in a recession is, at this point, without much doubt even if the consensus forecast – always behind the curve – now gives only even odds (49% according to the WSJ panel of forecasters, 50% according to the Bloomberg panel) to a recession outcome. The latest data point to a severe recession ahead lasting at least four quarters rather than mild recession that most forecasters are now predicting: a fall in employment in January; very high and elevated levels of initial and continued unemployment claims; a non-manufacturing ISM that literally plunged; the Philly Fed report and other forward looking indicators being in recession territory; falling – in real term – retail sales in the holiday season; mediocre results and falling sales for most retailers in January; plunging auto sales; very weak and further falling consumer confidence; a credit crunch that is becoming more severe in credit market as measured by a variety of credit spreads; the beginning of a severe recession in commercial real estate;

a worsening housing recession; sharply falling home prices; evidence of a serious credit crunch in the banking system based on the Fed survey of loan officers; a correction in all major stock markets and the beginning of a bear market in the NASDAQ; serious evidence of a global economic slowdown, especially in Europe, with outright recession ahead in some European countries. All these indicators points towards a severe recession.

It is not very likely that - as some forecasters now do – this will be a mild two-quarter recession and that growth will recover in H2 of 2008. The last two U.S. recessions in 1990-91 and 2001 lasted 8 months each. The current recession will last much longer and will be more severe for three reasons:

1. We are experiencing the worst U.S. housing recession since the Great Depression and this housing recession is nowhere near bottoming out. Home prices will eventually fall – relative to their 2006 peak – by 20% to 30%. They have already fallen by almost 8% based on the Case-Shiller/S&P index.
2. The U.S. consumer is shopped out, saving-less and debt burdened and now buffeted by oil prices close to $100 a barrel, a weakening labor market, weak income generation, falling consumer confidence, falling home values, falling home equity withdrawals, high debt, rising debt servicing ratios, a severe credit crunch and a sharp correction in the stock market that will turn into a bear market once the recession becomes deeper.
3. The U.S. financial system and credit markets are experiencing their most severe crisis since the early 1980s. The problems are now not limited any longer to subprime mortgages but spreading across the whole spectrum of credit and financial markets.

Let us consider in more detail this third point. Currently the problems in financial markets are no longer merely sub-prime mortgages, but rather a whole "sub-prime" financial system. The housing recession – the worst in U.S. history and worsening every day – will eventually see house prices fall by more than 20 percent, with millions of Americans losing their homes and/or walking away from them as they have negative equity in them.

Delinquencies, defaults, and foreclosures are now spreading from sub-prime to near-prime and prime mortgages. Thus, total losses on mortgage-related instruments – include exotic credit derivatives such as collateralized debt obligations (CDOs) – will add up to more than $400 billion.

Moreover, commercial real estate is beginning to follow the downward trend in residential real estate. After all, who wants to build offices, stores, and shopping centers in the empty ghost towns that litter the American West?

In addition to the downturn in real estate, a broader bubble in consumer credit is now collapsing: as the US economy slips into recession, defaults on credit cards, auto loans, and student loans will increase sharply. US consumers are shopped-out, savings-less, and debt-burdened. With private consumption representing more than 70 percent of aggregate US demand, cutbacks in household spending will deepen the recession.

We can also add to these financial risks the massive problems of bond insurers that guaranteed many of the risky securitization products such as CDOs. A very likely downgrade of these insurers' credit ratings will force banks and financial institutions that hold these risky assets to write them down, adding another $150 billion to the financial system's mounting losses.

Then there is the exposure of banks and other financial institutions to rising losses on loans that financed reckless leveraged buy-outs (LBOs). With a worsening recession, many LBOs that were loaded with too much debt and not enough equity will fail as firms with lower profits or higher losses become unable to service their loans.

Given all this, the recession will lead to a sharp increase in corporate defaults, which had been very low over the last two years, averaging 0.6 percent per year, compared to an historic average of 3.8 percent. During a typical recession, the default rate among corporations may rise to 10-15 percent, threatening massive losses for those holding risky corporate bonds.

As a result, the market for credit default swaps (CDS) – where protection against corporate defaults is bought and sold – may also experience massive losses. In that case, there will also be a serious risk that some firms that sold protection will go bankrupt, triggering further losses for buyers of protection when their counterparties cannot pay.

On top of all this, there is a shadow financial system of non-bank financial institutions that, like banks, borrow short and liquid and lend to or invest in longer-term and illiquid assets. This shadow system includes structured investment vehicles (SIVs), conduits, money market funds, hedge funds, and investment banks.

Like banks, all these financial institutions are subject to liquidity or rollover risk – the risk of going belly up if their creditors do not rollover their short-term credit lines. But, unlike banks, they do not have the safety net implied by central banks' role as lender of last resort.

Now that a recession is underway, US and global stock markets are beginning to fall: in a typical US recession, the S&P 500 index falls by an average of 28 percent as corporate revenues and profits sink. Losses in stock markets have a double effect: they reduce households' wealth and lead them to spend less; and they cause massive losses to investors who borrowed to invest in stock, thus triggering margin calls and asset fire sales.

There is thus a broader risk that many leveraged investors in both equity and credit markets will be forced to sell illiquid assets in illiquid markets, leading to a cascading fall in asset prices to below their fundamental values. The ensuing losses will aggravate the financial turmoil and economic contraction.

Indeed, adding up all these losses in financial markets, the sum will hit a staggering $1 trillion. Tighter credit rationing will then further hamper the ability of households and firms to borrow, spend, invest, and sustain economic growth. The risk that a systemic financial crisis will drive a more pronounced US and global recession has quickly gone from being a theoretical possibility to becoming an increasingly plausible scenario.

Let me elaborate now in more detail on three important issues:

1. Why there is now the risk of a systemic financial crisis.
2. Why the Federal Reserve and other financial policy makers may not be able to prevent this systemic crisis
3. How a worsening housing recession may lead 10 to 20 million households into negative equity territory and induce them to default on their mortgages and walk away from their homes.

1. The Rising Risk of a Systemic Financial Meltdown: The Twelve Steps to Financial Disaster

Why did the Fed ease the Fed Funds rate by a whopping 125bps in eight days this past January? It is true that most macro indicators were heading south and suggesting a deep and severe recession that has already started. But the flow of bad macro news in mid-January did not justify, by itself, such a radical inter-meeting emergency Fed action followed by another cut at the formal FOMC meeting.

To understand the Fed actions one has to realize that there is now a rising probability of a "catastrophic" financial and economic outcome, i.e. a vicious circle where a deep recession makes the financial losses more severe and where, in turn, large and growing financial losses and a financial meltdown make the recession even more severe. The Fed is seriously worried about this vicious circle and about the risks of a systemic financial meltdown.

That is the reason the Fed had thrown all caution to the wind – after a year in which it was behind the curve and underplaying the economic and financial risks – and has taken a very aggressive approach to risk management; this is a much more aggressive approach than the Greenspan one in spite of the initial views that the Bernanke Fed would be more cautious than Greenspan in reacting to economic and financial vulnerabilities.

To understand the risks that the financial system is facing today I present the "nightmare" or "catastrophic" scenario that the Fed and financial officials around the world are now worried about. Such a scenario – however extreme – has a rising and significant probability of occurring. Thus, it does not describe a very low probability event but rather an outcome that is quite possible.

Start first with the recession that is now enveloping the US economy. Let us assume – as likely - that this recession – that already started in December 2007 - will be worse than the mild ones – that lasted 8 months – that occurred in 1990-91 and 2001. The recession of 2008 will be more severe for several reasons: first, we have the biggest housing bust in US history with home prices likely to eventually fall 20 to 30%; second, because of a credit bubble that went beyond mortgages and because of reckless financial innovation and securitization the ongoing credit bust will lead to a severe credit crunch; third, US households – whose consumption is over 70% of GDP - have spent well beyond their means for years now piling up a massive amount of debt, both mortgage and otherwise; now that home prices are falling and a severe credit crunch is emerging the retrenchment of private consumption will be serious and protracted. So let us suppose that the recession of 2008 will last at least four quarters and, possibly, up to six quarters. What will be the consequences of it?

Here are the twelve steps or stages of a scenario of systemic financial meltdown associated with this severe economic recession.

First, this is the worst housing recession in US history and there is no sign it will bottom out any time soon. At this point it is clear that US home prices will fall between 20% and 30% from their bubbly peak; that would wipe out between $4 trillion and $6 trillion of household wealth. While the subprime meltdown is likely to cause about 2.2 million foreclosures, a 30% fall in home values would imply that over 10 million households would have negative equity in their homes and would have a big incentive to use "jingle mail" (i.e. default, put the home keys in an envelope and send it to their mortgage bank). Moreover, soon enough a few very large home builders will go bankrupt and join the dozens of other small ones that have already gone bankrupt thus leading to another free fall in home builders' stock prices that have irrationally rallied in the last few weeks in spite of a worsening housing recession.

Second, losses for the financial system from the subprime disaster are now estimated to be as high as $250 to $300 billion. But the financial losses will not be only in subprime mortgages and the related RMBS and CDOs. They are now spreading to near prime and prime mortgages as the same reckless lending practices in subprime (no down-payment, no verification of income, jobs and assets (i.e. NINJA or LIAR loans), interest rate only, negative amortization, teaser rates, etc.) were occurring across the entire spectrum of mortgages; about 60% of all mortgage origination since 2005 through 2007 had these reckless and toxic features. So this is a generalized mortgage crisis and meltdown, not just a subprime one. And losses among all sorts of mortgages will sharply increase as home prices fall sharply and the economy spins into a serious recession. Goldman Sachs now estimates total mortgage credit losses of about $400 billion; but the eventual figures could be much larger if home prices fall more than 20%. Also, the RMBS and CDO markets for securitization of mortgages – already dead for subprime and frozen for other mortgages - remain in a severe credit crunch, thus reducing further the ability of banks to originate mortgages. The mortgage credit crunch will become even more severe.

Also add to the woes and losses of the financial institutions the meltdown of hundreds of billions of off balance SIVs and conduits; this meltdown and the roll-off of the ABCP market has forced banks to bring back on balance sheet these toxic off balance sheet vehicles adding to the capital and liquidity crunch of the financial institutions and adding to their on balance sheet losses. And because of securitization the securitized toxic waste has been spread from banks to capital markets and their investors in the US and abroad, thus increasing – rather than reducing systemic risk – and making the credit crunch global.

Third, the recession will lead – as it is already doing – to a sharp increase in defaults on other forms of unsecured consumer debt: credit cards, auto loans, student loans. There are dozens of millions of subprime credit cards and subprime auto loans in the US. And again defaults in these consumer debt categories will not be limited to subprime borrowers. So add these losses to the financial losses of banks and of other financial institutions (as also these debts were securitized in ABS products), thus leading to a more severe credit crunch. As the Fed loan officers survey suggest the credit crunch is spreading throughout the mortgage market and from mortgages to consumer credit, and from large banks to smaller banks.

Fourth, while there is serious uncertainty about the losses that monolines will undertake on their insurance of RMBS, CDO and other toxic ABS products, it is now clear that such losses are much higher than the $10-15 billion rescue package that regulators are trying to patch up. Some monolines are actually borderline insolvent and none of them deserves at this point a AAA rating regardless of how much realistic recapitalization is provided. Any business that required an AAA rating to stay in business is a business that does not deserve such a rating in the first place. The monolines should be downgraded as no private rescue package – short of an unlikely public bailout – is realistic or feasible given the deep losses of the monolines on their insurance of toxic ABS products.

Next, the downgrade of the monolines will lead to another $150 of writedowns on ABS portfolios for financial institutions that have already massive losses. It will also lead to additional losses on their portfolio of muni bonds. The downgrade of the monolines will also lead to large losses – and potential runs – on the money market funds that invested in some of these toxic products. The money market funds that are backed by banks or that bought liquidity protection from banks against the risk of a fall in the NAV may avoid a run but such a rescue will exacerbate the capital and liquidity problems of their underwriters. The monolines' downgrade will then also lead to another sharp drop in US equity markets that are already shaken by the risk of a severe recession and large losses in the financial system.

Fifth, the commercial real estate loan market will soon enter into a meltdown similar to the subprime one. Lending practices in commercial real estate were as reckless as those in residential real estate. The housing crisis will lead – with a short lag – to a bust in non-residential construction as no one will want to build offices, stores, shopping malls/centers in ghost towns. The CMBX index is already pricing a massive increase in credit spreads for non-residential mortgages/loans. And new origination of commercial real estate mortgages is already semi-frozen today; the commercial real estate mortgage market is already seizing up today.

Sixth, it is possible that some large regional or even national bank that is very exposed to mortgages, residential and commercial, will go bankrupt. Thus some big banks may join the 200 plus subprime lenders that have gone bankrupt. This, like in the case of Northern Rock, will lead to depositors' panic and concerns about deposit insurance. The Fed will have to reaffirm the implicit doctrine that some banks are too big to be allowed to fail. But these bank bankruptcies will lead to severe fiscal losses of bank bailout and effective nationalization of the affected institutions. Already Countrywide – an institution that was more likely insolvent than illiquid – has been bailed out with public money via a $55 billion loan from the FHLB system, a semi-public system of funding of mortgage lenders. Banks' bankruptcies will add to an already severe credit crunch.

Seventh, the banks losses on their portfolio of leveraged loans are already large and growing. The ability of financial institutions to syndicate and securitize their leveraged loans – a good chunk of which were issued to finance very risky and reckless LBOs – is now at serious risk. And hundreds of billions of dollars of leveraged loans are now stuck on the balance sheet of financial institutions at values well below par (currently about 90 cents on the dollar but soon much lower). Add to this that many reckless LBOs (as senseless LBOs with debt to earnings ratio of seven or eight had become the norm during the go-go days of the credit bubble) have now been postponed, restructured or cancelled. And add to this problem the fact that some actual large LBOs will end up into bankruptcy as some of these corporations taken private are effectively bankrupt in a recession and given the repricing of risk; convenant-lite and PIK toggles may only postpone – not avoid – such bankruptcies and make them uglier when they do eventually occur. The leveraged loans mess is already leading to a freezing up of the CLO market and to growing losses for financial institutions.

Eighth, once a severe recession is underway a massive wave of corporate defaults will take place. In a typical year US corporate default rates are about 3.8% (average for 1971-2007); in 2006 and 2007 this figure was a puny 0.6%. And in a typical US recession such default rates surge above 10%. Also during such distressed periods the RGD – or recovery given default – rates are much lower, thus adding to the total losses from a default. Default rates were very low in the last two years because of a slosh of liquidity, easy credit conditions and very low spreads (with junk bond yields being only 260bps above Treasuries until mid June 2007). But now the repricing of risk has been massive: junk bond spreads close to 700bps, iTraxx and CDX indices pricing massive corporate default rates and the junk bond yield issuance market is now semi-frozen. While on average the US and European corporations are in better shape – in terms of profitability and debt burden – than in 2001 there is a large fat tail of corporations with very low profitability and that have piled up a mass of junk bond debt that will soon come to refinancing at much higher spreads. Corporate default rates will surge during the 2008 recession and peak well above 10% based on recent studies. And once defaults are higher and credit spreads higher massive losses will occur among the credit default swaps (CDS) that provided protection against corporate defaults. Estimates of the losses on a notional value of $50 trillion CDS against a bond base of $5 trillion are varied (from $20 billion to $250 billion with a number closer to the latter figure more likely). Losses on CDS do not represent only a transfer of wealth from those who sold protection to those who bought it. If losses are large some of the counterparties who sold protection – possibly large institutions such as monolines, some hedge funds or a large broker dealer – may go bankrupt leading to even greater systemic risk as those who bought protection may face counterparties who cannot pay.

Ninth, the "shadow banking system" (as defined by the PIMCO folks) or more precisely the "shadow financial system" (as it is composed by non-bank financial institutions) will soon get into serious trouble. This shadow financial system is composed of financial institutions that – like banks – borrow short and in liquid forms and lend or invest long in more illiquid assets. This system includes: SIVs, conduits, money market funds, monolines, investment banks, hedge funds and other non-bank financial institutions. All these institutions are subject to market risk, credit risk (given their risky investments) and especially liquidity/rollover risk as their short term liquid liabilities can be rolled off easily while their assets are more long term and illiquid. Unlike banks these non-bank financial institutions don't have direct or indirect access to the central bank's lender of last resort support as they are not depository institutions. Thus, in the case of financial distress and/or illiquidity they may go bankrupt because of both insolvency and/or lack of liquidity and inability to roll over or refinance their short term liabilities. Deepening problems in the economy and in the financial markets and poor risk managements will lead some of these institutions to go belly up: a few large hedge funds, a few money market funds, the entire SIV system and, possibly, one or two large and systemically important broker dealers. Dealing with the distress of this shadow financial system will be very problematic as this system – stressed by credit and liquidity problems - cannot be directly rescued by the central banks in the way that banks can.

Tenth, stock markets in the US and abroad will start pricing a severe US recession – rather than a mild recession – and a sharp global economic slowdown. The fall in stock markets – after the late January 2008 rally fizzles out – will resume as investors will soon realize that the economic downturn is more severe, that the monolines will not be rescued, that financial losses will mount, and that earnings will sharply drop in a recession not just among financial firms but also non financial ones. A few long equity hedge funds will go belly up in 2008 after the massive losses of many hedge funds in August, November and, again, January 2008. Large margin calls will be triggered for long equity investors and another round of massive equity shorting will take place. Long covering and margin calls will lead to a cascading fall in equity markets in the US and a transmission to global equity markets. US and global equity markets will enter into a persistent bear market as in a typical US recession the S&P500 falls by about 28%.

Eleventh, the worsening credit crunch that is affecting most credit markets and credit derivative markets will lead to a dry-up of liquidity in a variety of financial markets, including otherwise very liquid derivatives markets. Another round of credit crunch in interbank markets will ensue triggered by counterparty risk, lack of trust, liquidity premia and credit risk. A variety of interbank rates – TED spreads, BOR-OIS spreads, BOT –

Tbill spreads, interbank-policy rate spreads, swap spreads, VIX and other gauges of investors' risk aversion – will massively widen again. Even the easing of the liquidity crunch after massive central banks' actions in December and January will reverse as credit concerns keep interbank spread wide in spite of further injections of liquidity by central banks.

Twelfth, a vicious circle of losses, capital reduction, credit contraction, forced liquidation and fire sales of assets at below fundamental prices will ensue leading to a cascading and mounting cycle of losses and further credit contraction. In illiquid market actual market prices are now even lower than the lower fundamental value that they now have given the credit problems in the economy. Market prices include a large illiquidity discount on top of the discount due to the credit and fundamental problems of the underlying assets that are backing the distressed financial assets. Capital losses will lead to margin calls and further reduction of risk taking by a variety of financial institutions that are now forced to mark to market their positions. Such a forced fire sale of assets in illiquid markets will lead to further losses that will further contract credit and trigger further margin calls and disintermediation of credit. The triggering event for the next round of this cascade is the downgrade of the monolines and the ensuing sharp drop in equity markets; both will trigger margin calls and further credit disintermediation.

Based on estimates by Goldman Sachs $200 billion of losses in the financial system lead to a contraction of credit of $2 trillion given that institutions hold about $10 of assets per dollar of capital. The recapitalization of banks sovereign wealth funds – about $80 billion so far – will be unable to stop this credit disintermediation – (the move from off balance sheet to on balance sheet and moves of assets and liabilities from the shadow banking system to the formal banking system) and the ensuing contraction in credit as the mounting losses will dominate by a large margin any bank recapitalization from SWFs. A contagious and cascading spiral of credit disintermediation, credit contraction, sharp fall in asset prices and sharp widening in credit spreads will then be transmitted to most parts of the financial system. This massive credit crunch will make the economic contraction more severe and lead to further financial losses. Total losses in the financial system will add up to more than $1 trillion and the economic recession will become deeper, more protracted and severe.

A near global economic recession will ensue as the financial and credit losses and the credit crunch spread around the world. Panic, fire sales, cascading fall in asset prices will exacerbate the financial and real economic distress as a number of large and systemically important financial institutions go bankrupt. A 1987 style stock market crash could occur leading to further panic and severe financial and economic distress. Monetary and fiscal easing will not be able to prevent a systemic financial meltdown as credit and insolvency problems trump illiquidity problems. The lack of trust in counterparties – driven by the opacity and lack of transparency in financial markets, and uncertainty about the size of the losses and who is holding the toxic waste securities – will add to the impotence of monetary policy and lead to massive hoarding of liquidity that will exacerbates the liquidity and credit crunch.

In this meltdown scenario the U.S. and global financial markets will experience their most severe crisis in the last quarter of a century.

2. Can the Fed and Policy Makers Avoid a Systemic Financial Meltdown? Most Likely Not

Can the Fed and other financial officials avoid the systemic financial crisis scenario described in the previous section? The answer to this question – to be detailed below – is twofold: first, it is not easy to manage and control such a contagious financial crisis that is more severe and dangerous than any faced by the US in a quarter of a century; second, the extent and severity of this financial crisis will depend on whether the policy response – monetary, fiscal, regulatory, financial and otherwise – is coherent, timely and credible. I am of the view that one should be pessimistic about the ability of policy and financial authorities to manage and contain a crisis of this magnitude; thus, one should be prepared for the worst, i.e. a systemic financial crisis.

I will present next eight reasons why I am skeptical that such a systemic risk scenario can be avoided.

Before we get to the many reasons why one should be pessimistic let us consider at least one reason why one could be more optimistic. The main good news in this respect is that, after being behind the curve in its assessment of the economic and financial risks, the Fed now gets it and is worried about a serious systemic financial crisis. For over a year the Fed assessment of the risks to the economy and to the financial markets was flatly wrong. The Fed argued that the housing "slump" would bottom out over a year ago; instead the housing recession got deeper and is nowhere near bottoming out; Bernanke argued repeatedly that the subprime problem would be a niche and contained problem; instead we have observed a severe liquidity and credit crunch that has spread to the entire financial system; the Fed argued that the housing recession would have no significant spillovers to the other sectors of the economy in spite of the importance of housing and in spite of the fact that housing is the main assets of most households; instead we are now observing an economy wide-recession. So to put it simply the Fed – as well as most macro analysts and forecasters - got it totally wrong in its assessment of the risks to the economy and to financial markets.

Today instead the Fed is certainly aware of the risks not just to the real economy but also to financial markets. As senior Fed officials argue in private the risk of a catastrophic event – a small probability of a systemic financial meltdown that would lead to a severe recession – is rising and this scenario, however unlikely, has to be avoided at any cost. This is the main reason why the Fed has thrown caution to the wind and has taken a very aggressive approach to risk management, as signaled by the 125bps Fed Funds easing in eight days in January.

What is the Fed's and the financial officials' strategy to avoid the vicious circle of a severe recession and of a systemic catastrophic financial meltdown? Here are the main elements of this strategy and the important limitations and constraints to that strategy.

First, an aggressive monetary easing with the reduction of the Fed Funds rate to reduce the risk of a deeper and more protracted recession. The limits to this monetary policy easing are twofold. First, at some point the Fed needs to worry that an aggressive Fed Funds easing will lead to a disorderly fall of the US dollar, to foreign private investors pulling the plug on the financing of still large US external deficits and to higher imported inflation. Second, monetary policy is relatively ineffective in stimulating the economy as: there is a glut of housing, consumer durables, automobiles and it will take years to clear that glut; i.e. monetary policy becomes less effective as the demand for such capital goods becomes less interest rate sensitive under glut conditions or, in other terms, easing money is like pushing on a string. Second, the problems of the economy are not just problems of illiquidity but rather more deep seated problems of insolvency; and monetary policy cannot resolve serious credit problems in the economy.

Second, a strong provision of liquidity to financial markets to reduce the liquidity crunch in interbank and money markets. Such provision of liquidity failed to reduce such a crunch in the fall of 2007 until the Fed became much more aggressive in December with its new liquidity auctions. Since then interbank spreads have become smaller – especially because markets were pricing very aggressive Fed Funds easing - but such a liquidity crunch has not disappeared – as proxied by the crucial BOR-OIS spread while the credit crunch in credit markets has now become even more severe than in the fall. Also, interbank spreads may significantly widen again for several reasons. First, such spreads include two components, a liquidity premium and a credit premium; while the Fed can affect the former through its provision of liquidity it cannot affect the second and recent evidence suggests that interbank spread are now more driven by credit spreads. Second, with a worsening economy and increasingly large losses in an opaque financial system where lack of trust in counterparties is increasing and where counterparty risk will increase in a deepening recession, credit premia will become larger.

Third, an robust attempt to coordinate a private rescue of the monolines to prevent their rating downgrade and thus avoid another round of writedowns in the financial system. As a senior policy official put it in a private meeting at Davos rescuing the monoline is "a no brainer". The trouble is that, while a few weeks ago it was thought that a $10 to $15 billion recapitalization of the monolines was thought to be doable and sufficient to prevent such a downgrade it is now becoming increasingly clear that the monoline losses on their insurance of toxic structured finance products are massive and that $10-15 billion will not be enough to avoid a now necessary and unavoidable downgrade.

Also, as argued here before, a business model that requires a AAA rating to remain in business is a business model that does not deserve an AAA rating in the first place. As also agreed by Bill Gross of PIMCO bond insurance of structured products was a form of "voodoo finance" that created AAA ratings for toxic instruments that should have never had such ratings in the first place.

And once the unavoidable downgrade of monolines occurs financial institutions will be forced to write down another $150 billion structured finance assets kicking another round of large financial losses. The downgrade of the monolines could also lead to large losses

– and potential runs – on the money market funds that invested in some of these toxic products. The money market funds that are backed by banks or that bought liquidity protection from banks against the risk of a fall in the NAV may avoid a run but such a rescue will exacerbate the capital and liquidity problems of their underwriters. Finally, the monolines' downgrade will then also lead to another sharp drop in US equity markets that are already shaken by the risk of a severe recession and large losses in the financial system. Indeed, in the last few weeks movements of the stock markets have been driven more by news about the fate of the monolines rather than the monetary easing news of the Fed, a signal that markets realize that the economy suffers of credit, rather than just illiquidity, problems.

Fourth, avoiding a more severe credit crunch by an aggressive support of the recapitalization of the financial system through capital injections by sovereign wealth funds (SWF). The risk of a credit crunch following the losses in financial institutions and their reduction in capital is serious. For example, Goldman Sachs estimated that $200 billion of losses in the financial system will lead to a contraction of credit of $2 trillion given that such institutions hold about $10 of assets per dollar of capital.

That is the reason why the Fed, the US Treasury and other financial officials have totally set aside any other concerns about SWFs (their foreign government ownership, their lack of transparency, etc.) and have aggressively supported the recapitalization of the financial system by such SWF. To avoid a more severe recession it is better to restore the balance sheet of the banks via a recap that reduces the need to contract lending and credit than via a contraction of the asset side of such balance sheet. However, this recapitalization of banks by sovereign wealth funds – about $70 billion so far – will be unable to stop the credit crunch and the credit disintermediation (the move from off-balance sheet to on balance sheet of SIVs, conduits and other vehicle; and the moves of assets and liabilities from the shadow banking system to the formal banking system) and the ensuing contraction in credit as the mounting losses in the financial system will dominate by a large margin any bank recapitalization from SWFs.

Based on our analysis such losses in the financial system could add up to more than $1 trillion - not just $200 billion – and a good part of these losses will be among financial institutions such as commercial banks and investment banks. Thus, unless SWF or other financial institutions are willing to throw much more good money after bad money (the Chinese SWF – CIC - lost 30% of its investment into Blackstone in three months alone; while BofA lost most of its $2 billion investment in Countrywide and is not at risk of doubling up its losses by taking over the insolvent Countrywide) it will be impossible to avoid a significant reduction in the capital of the financial system and the severe credit crunch that is now underway. And there is now evidence that even long-investment horizon investors such as SWF are starting to become skeptical about throwing good money after bad money into US and European financial institutions.

Also notice that recent data suggest significant losses and the beginning of a credit crunch among smaller banks and even some medium sized regional and national banks. The chances that such smaller banks with serious problems will get massive support from SWF are very low.

Fifth, attempts to reduce the number of foreclosures among distressed homeowners and provide measure of support of the housing markets. These include the Hope plan to freeze the reset of some ARM mortgages, the lifting of some of the limits to the portfolios of the GSEs, the use of the Federal Home Loan Bank system to provide liquidity to mortgage lenders, use the FHA Secure loan refinance program to reduce the number of foreclosures, etc. But some of these plans are too little too late to make a difference while others are outright inappropriate uses of public money.

To understand the gargantuan challenge that policy makers face in controlling the severity of the housing recession note that it highly likely that US home prices will fall between 20% and 30% from their bubbly peak; that fall would reduce household wealth between $4 trillion and $6 trillion. Also, while the subprime meltdown is likely to cause about 2.2 million foreclosures, a 30% fall in home values would imply that over 10 million households would have negative equity in their homes and would have a big incentive to use “jingle mail” (i.e. default, put the home keys in an envelope and send it to their mortgage bank).

Given the size of the meltdown in the housing market and the risks of massive default the measures undertaken so far are either minor band-aid solutions or inappropriate uses of public funds. The Hope plan – while going in the right direction in spirit – is so constrained that it will help only a very small fraction of subprime borrowers in avoiding a reset of their ARMs; studies suggest that – at best – only 5% to 10% of such borrowers will be able to benefits from such a reset. The severity of the housing crisis is such that even a hypothetical plan that allowed all of subprime borrowers to freeze their resets would not be enough. Currently politically unthinkable appropriate solutions – such as an outright across the board reduction of the face value of the mortgages of the order of 10% to 20% to reduce the jingle mail are unconceivable now but may become necessary in the near future to stem a tsunami of defaults and foreclosures.

The time will come – unfortunately too late – when financial institutions will realize that they are better off freezing the resets and, at the same time, write down a part of the face value of the mortgage, to allow strapped homeowners to avoid default as the alternative of foreclosure and selling homes at steeply discounted prices in a very illiquid markets involves larger losses for the creditors than a reduction of the debt burden of illiquid and/or insolvent borrowers. Unfortunately this rational solution to the mortgage credit problems will come too late and only when massive insolvencies will lead banks to appreciate the benefits of this alternative and more radical approach to mortgage distress. In the meanwhile the housing and mortgage carnage will continue at accelerated rates.

Similarly, the FHA Secure program has been so far a total failure and there are now suggestions to vastly expand it to make it more effective. The proposals to allow the GSEs (Fannie and Freddie) to buy or guarantee mortgages above the current conforming limits of $417k (all the way to a new limit of $729k) don’t have much merit. The jumbo loan market may be in distress now but why should the GSE heavily subsidize very large mortgages of upper class Americans. At the $417 limit the GSE are already seriously subsidizing the mortgages by middle and middle upper class households. Now extending this subsidy to the wealthiest households buying McMansions and expensive condos is highly inappropriate public policy. Also, as suggested by OFHEO, such plan may lead the GSE to divert their lending activities from buying and guaranteeing smaller and less expensive mortgages towards bigger jumbo loans.

Finally, the widespread use of the FHLB system to provide liquidity – but more clearly bail out insolvent mortgage lenders – has been outright reckless. Countrywide alone – the poster child of the last decade of reckless and predatory lending practices – received a $51 billion loan from this semi-public system; in the absence of this public bailout Countrywide would have ended up where it should, i.e. into outright bankruptcy. And the largesse of the FHLB system does not stop at Countrywide. A system that usually provides a lending stock of about $150 billion has forked out loans amounting to over $750 billion in the last year with very little oversight of such staggering lending. The risk that this stealth bailout of many insolvent mortgage lenders will end up costing massive amounts of public money is now rising.

Sixth, the Fed and other financial regulators have concentrated on trying to avoid the liquidity and insolvency problems of banks and other depository institutions. Through the provision of massive liquidity – including the new TAF auctions - to these depository institutions, the reduction of the discount rate and the easing of access to the discount window, via actions of forbearance such as the waiver of Regulation W or via the effective bailout of some subprime lenders such as Countrywide via the FHLB system the Fed and other financial regulators have been busy to avoid a “Northern Rock” style of bank collapse and run. Whether such actions are wise as some banking institutions are insolvent and whether such actions will be effective in preventing some bank defaults is open to discussion. There is increasing likelihood that some banks – even some large regional ones or some smaller national ones – may go under during a severe recession, regardless of what the Fed does.

But much more importantly the Fed is not directly able to resolve the liquidity and credit problems of the “shadow banking system” (as defined by the PIMCO folks). A more appropriate definition of this system would be the “shadow financial system” (as it is composed by non-bank financial institutions) and this system is now facing serious problems that cannot be easily addressed by the Fed. This shadow financial system is composed of financial institutions that – like banks – borrow short and in liquid forms and lend or invest long in more illiquid assets. This system includes: SIVs, conduits, money market funds, monolines, investment banks, hedge funds and other non-bank financial institutions.

All these institutions are subject to market risk, credit risk (given their risky investments) and especially liquidity/rollover risk as their short term liquid liabilities can be rolled off easily while their assets are more long term and illiquid. Unlike banks these non-bank financial institutions don’t have direct or indirect access to the central bank’s lender of last resort support as they are not depository institutions. Thus, in the case of financial distress and/or illiquidity they may go bankrupt because of both insolvency and/or lack of liquidity and inability to roll over or refinance their short term liabilities. Deepening problems in the economy and in the financial markets and poor risk managements will lead some of these institutions to go belly up: a few large hedge funds, a few money market funds, the entire SIV system and, possibly, one or two large and systemically important broker dealers.

Dealing with the distress of this shadow financial system will be very problematic as this system – stressed by credit and liquidity problems - cannot be directly rescued by the central banks in the way that banks can. The Federal Reserve Act does allow lending by the Fed to non-depository institutions only in extreme emergency conditions and after a very restrictive and cumbersome voting and approval process. And since the Great Depression such emergency authority to lend to non-depository institutions has not been invoked. Thus, while the liquidity injections by the Fed has been helpful in reducing the liquidity crunch among many depository institutions they have been ineffective in dealing with the liquidity and credit problems of such shadow financial system. This is the reason why the SIVs collapsed and their assets and liabilities had to be brought back on-balance sheet. This is why money market funds that experienced massive losses on their holdings of toxic ABS had to be rescued by their holding banks or financial groups. If some large hedge funds were to experience a significant run on their funding – as the risk of redemptions is rising given the large losses by some of them in recent months and in January and the coming deadline for redemptions – no one would be able to bailed them out, thus forcing a potentially dangerous fire sale of their assets in an illiquid market. And at this point one cannot now rule out that one or more large broker dealer may end up into liquidity or credit problems and face bankruptcy. These are all problems that the Fed and other financial regulators cannot resolve, either directly or indirectly.

Seventh, the Fed and financial regulators and supervisors are walking a very fine line between transparency/recognition of losses and forbearance. On one side they recognize the need for financial institutions to be transparent and reveal fully the losses on their balance sheets as the uncertainty about such losses is an importance source of the lack of trust and confidence that has made this crisis severe; they also recognize the need to avoid forms of policy forbearance that would exacerbate such a lack of confidence. At the same time the authorities are trying to avoid – via appropriate forbearance actions - a self destructive asset price deflation and fire sales of assets that would exacerbate the financial meltdown, the credit crunch and the collateral damage to the real economy. The trouble is that finding the right and appropriate “middle way” between transparency and recognition of losses and “appropriate” forbearance is very hard.

The logic of finding a middle way is obvious. Transparency and openness about the losses that financial institutions suffered is necessary to resolve the “Where is Waldo?” problem, i.e. the uncertainty among the investors on who is holding the toxic waste and how much of it; this uncertainty has been the source of the risk aversion, lack of trust in counterparties and liquidity hoarding that has worsened the liquidity and credit crunch.

So, greater transparency and recognition of the losses is appropriate to restore confidence in the financial system.

On the other hand there is also recognition that under very distressed and illiquid market conditions too much transparency and too much marking to market may lead to a self-destructive cascade of asset prices falling below medium term fundamental values and the credit crunch getting worse. Specifically, there is now a risk that a vicious circle of financial losses, capital reduction, credit contraction, forced liquidation and fire sales of assets at below fundamental prices will take leading to a cascading and mounting cycle of losses and further credit contraction. In illiquid market actual market prices are now even lower than the lower fundamental value that they now have given the credit problems in the economy. Market prices include a large illiquidity discount on top of the discount due to the credit and fundamental problems of the underlying assets that are backing the distressed financial assets. Capital losses then will lead to margin calls and further reduction of risk taking by a variety of financial institutions that are now forced to mark to market their positions. Such a forced fire sale of assets in illiquid markets will lead to further losses that will further contract credit and trigger further margin calls and disintermediation of credit.

As one former senior financial official put in a private Davos' WEF session on systemic financial risk if we had today for the auto loans and credit cards an instrument similar to the ABX for pricing the value of subprime loans such form of market transparency would be self-destructive and lead banks to show massive additional losses, even larger than those warranted by the worsening fundamentals in the consumer credit market. In other terms, marking to market in a market where prices are discounted by illiquidity may be self destructive.

The problem is that this principle of avoiding – via appropriate forbearance - a self destructive cascade of asset fire sales in illiquid markets is a sensible idea that it is easier expressed in theory than being applicable in practice. Some of the early attempts to provide such forbearance were actually faulty and destructive of confidence: for example the super-SIV plan was conceptually faulty in the first place and its failure appropriate. If a fire sale of the illiquid assets of the SIV was inappropriate the right solution was not to park such assets in a freakish super-SIV. It was rather to bring back those assets on the balance sheet of banks where they belonged in the first place.

Similarly, the concern about the writedowns that will follow a downgrade of the monolines is well taken. However, desperate attempt to avoid a rating downgrade of monolines that do not deserve such AAA rating are highly inappropriate as the insurance by these monolines of toxic ABS was reckless in the first place. If public concerns about access to financing by state and local governments during a recession period are warranted it is better to split the monoline insured assets between muni bonds and structured finance vehicle, ring fence the muni component and let the rest be downgraded and accept the necessary writedowns on the structured finance assets. If these necessary writedowns will then hurt financial institutions that hold this "insured" toxic waste so be it as these assets should have never been insured in the first place. The ensuing fallout from the necessary writedown – such as the need to avoid fire sales in illiquid markets - should then be addressed with other policy actions.

These examples suggest that while the concerns of authorities on avoiding self destructive fire sales and asset price undershooting (relative to fundamentals) may be warranted providing appropriate – as opposed as inappropriate and self destructive forbearance – is easier said than done. The Fed and other financial authorities are looking for a “middle way” but that middle way may not clearly exist in practice. Thus, there are serious limits to the authorities’ ability to follow sensible policies that avoid a vicious circle of asset price undershooting and excessive credit contraction.

In this regard market perceptions that the Fed is out there to bail out investors and the stock market are also not conducive to greater confidence in the monetary authorities. While the Fed goal may rightly be that of bailing out Main Street rather than Wall Street a recession is now not only unavoidable but also necessary to reduce the imbalances – excessive spending relative to income – that were festered by the asset and credit bubbles that burst last year. While public policy should be concerned about a contraction of demand and economic activity that is in excess of what is necessary to restore economic and financial sustainability public policy should not aggressively prevent the necessary economic adjustment that is now required, i.e. a painful reduction of consumption relative to income and an increase in the saving rate that is necessary to bring the economy on a more sustainable growth path over the medium term.

Thus, the perception by markets that the Fed is trying to avoid the necessary economic correction and the necessary adjustment in asset prices – including a needed sharp reduction in equity price and in home prices and the necessary increase in credit spreads – is a matter of concern. While moral hazard will be contained by the massive losses that lenders and investors will suffer regardless of what the Fed does the perception that the Fed is trying to prevent the necessary adjustment in asset prices is not confidence building. While the Fed may be running out of bubbles to create and while inflation may end up being the last of the problems that the Fed faces ahead market perceptions that the Fed has now altogether ignored concerns about moral hazard and concerns about future inflation are now starting to undermine the credibility of the Fed.

Eighth, and finally, the Anglo-Saxon financial system is in a severe crisis – as argued by Martin Wolf or – as argued here – this is the first crisis of financial globalization and securitization. The reform of the financial system to reduce the risk of future destructive credit and asset bubbles is a massive undertaking that the G7 and the Financial Stability Forum have just started. Formally senior financial official argue that everything is on the table and open to discussion and reform: the flaws and wrong incentives of the securitization (originate and distribute) model, the conflicts of interests of the rating agencies, the poor risk management in financial institutions, the lack of true stress testing, the importance of liquidity risk, the wrong incentives deriving from the system of compensation of bankers and financial sector operators who have an agency problem relative to the firms’ shareholders and an incentive to gamble for redemption, the lack of information and transparency in the financial system, the flaws of Basel 2, the problems of pricing and valuing complex structured finance products, as well as other issues.

Reforming this system is urgent to restore confidence in the financial system and reduce the risks of boom and busts in asset prices and credit that are becoming increasingly self-destructive. It is one thing to have such boom and busts in less developed and complex financial system with lower degrees of financial innovation. It is another one to have these repeated and increasingly unstable cycles in very complex systems that private sector agents and public sector regulators and supervisors don't fully understand and are unable to control. The risk that a systemic financial meltdown in this most complex "black box" financial system that has run amok will cause a "black swan" event with destructive real economic and financial consequences is rising.

And while policy makers and regulators now claim that everything is on the table in terms of reforming a faulty financial system they stress in private that their preferred approach would be one of "self-regulation" and reforms undertaken by private financial institutions rather than new rules and regulation imposed by authorities. While the right balance between principles and rules in regulation and supervision is open to discussion the recent experience suggests that excessive reliance on principles not backed by appropriate rules, the delusional hope that internal models of risk management will provide the right amount of risk taking, the wishful thinking that "self-regulation" will work, the hope that financial institutions will self reform the system of compensations of bankers are all mistaken views. A more robust set of rules, regulations and supervisions will be necessary as excessive reliance on self-regulation and market discipline has shown its failure. Starting with the interim report that the FSF group headed by Mario Draghi will present to the G7 finance ministers we will see how serious financial official are about reforming the system and reducing the medium terms risks of a systemic financial crisis. For the time being there are good reasons to be skeptical that the right policy actions and reforms will be undertaken.

In conclusion, the risks of a systemic financial meltdown of the sort that I described in the previous section are rising. While the Fed and the financial policy authorities are now fully aware of the risks of this scenario – after a long two years where they misdiagnosed the problems in the economy and the financial system – and they are starting to take some of the appropriate policy actions in the monetary and financial spheres, a realistic assessment of the risks in the real economy and in the financial system suggests that it will be very hard to avoid a severe economic recession and the financial fallout of such a recession. And the risks of a systemic financial crisis that will exacerbate such a US recession and will lead to near recession conditions around the world are now rising.

3. The Forthcoming "Jingle Mail" Tsunami: 10 to 15 Million Households Likely to Walk Away from their Homes/Mortgages Leading to a the Risk of a Systemic Banking Crisis

The current housing recession, subprime meltdown and severe credit crunch in financial markets has many worrisome aspects. And while there is always a "crisis de jeur" - one day SIVs, the next day monolines, the next day TOBs or auction-rate securities - one needs to keep some perspective and consider which risks are first-order sources of stress for financial markets and which ones are of second or third-order concern.

I will argue that currently the most important first-order risk for financial markets derives from the likelihood that 10 million to 15 million households may walk away from their homes if – as likely - home prices fall another 10% in 2008 and further in 2009. When – in the summer of 2006 – this author argued that this would be the worst housing US recession in the last 50 years and that home prices would fall – from their peak value – by 20% such predictions were taken as being way too pessimist . Unfortunately the housing recession ended up being even more severe than the most pessimistic predictions by this and other authors. Indeed, this is likely to end up being the worst housing recession in U.S. history – not just in the last 50 years – and home prices may likely eventually fall by 30%, not this author's original 20%. By now prices declines of the order of 20% are predicted by Goldman Sachs, Robert Shiller, MarketWatch chief economist Irwin Kellner and others; while Paul Krugman has suggested even a figure of 30%; and, according to Robert Shiller, in some markets home prices may fall by 40 to 50%.

So let us consider the implications for the household sector of price declines of the order of 20 to 30%. The math is simple as I will flesh out in this note: 10 to 15 million households will end up in negative equity territory and will be likely to default on their homes and walk away from them. Then, the losses for the financial system from these massive defaults will be of the order of $1 trillion to $2 trillion, a multiple of the $200 to $400 billion of losses currently estimated for mortgage related securities.

Let us consider next some of the details of this scenario and its consequences for the financial system In the last few weeks a spate of articles have appeared in the press noticing the alarming increase in default rates not just among subprime borrowers but increasingly near prime and prime borrowers. In particular it has been noted that the number of voluntary defaults, i.e. households literally walking away from their homes and mortgages has surged.

What is happening is just the consequence of rational economic behavior. In most US states mortgages are non-recourse loans; thus, if a home owner defaults on its mortgage the bank take over the collateral – the home – via foreclosure but once that happens it cannot go after the borrower for any difference between the value of the original mortgage and the current value of the property.

The fact that most mortgages are de jure non-recourse (and the fact that even those mortgages that are de-jure with recourse are de-facto non-recourse as the legal and other costs of going after the borrowers are excessive) has powerful implications: it implies that the borrower has effectively a put option that allows him or her to walk away from its home whenever the value of the home is below the value of the mortgage, what is technically referred to as negative equity.

Of course, not every home owner with negative equity will walk away from its home, i.e. send “jingle mail” (put the home keys of the home in an envelope, send it to the bank and walk away from the home). Reputational considerations and other factors may lead some home owners to keep on servicing their mortgage. But it is obvious that the larger is the negative equity in a home the greater is the incentive to do use “jingle mail”. Indeed, why should any rational agent continue to service a debt when the underlying value of the collateral for it is much lower than the value of the debt and the creditor cannot go after the debtor for the difference between the debt value and the value of the collateral?

Until recently there was a conventional wisdom and wishful thinking that home owners would not voluntarily walk away from their homes. This wishful thinking was based on a few flawed assumptions. First, most analysts did not even consider the possibility that home prices would fall so much that a large fraction of households would fall into negative equity; there was the delusion that home prices would go up forever or would never fall. Second, analysts did not consider how many of the mortgages originated in 2005-2007 were with little or zero down-payment and thus with little or no equity to begin with; the myth of the stable and non-defaulting home owner was based on a distant past when most borrowers put 10 to 20% down payment in their home and had substantial equity into it. Third, economic logic suggested that an agent with such a put option would walk away from its home and mortgage whenever in negative equity territory; so delusions that sentimental value would restrain home owners from defaulting had little economic rationale. So, now that home prices keep on falling and an increasing number of home owners end up in negative equity territory voluntary defaults and “jingle mail” are surging. Is there then anything to be surprised about?

How many households will end up in negative equity territory and will thus an incentive to walk away from their mortgages? The answer to this question of course depends on how much home prices will eventually fall from their peak. A recent analysis by Goldman Sachs suggests that if home prices fall another 10% in 2008 after having fallen by about 8% from peak in 2007 (based on the Case-Shiller/S&P index) about 15 million households will be in negative equity territory. There are other estimates that are consistent with the Goldman Sachs one. Calculated Risk – a very well respected housing blogger – estimated that if home prices decline by 10% in 2008 the number of households with negative equity will be 10.7. But this estimate was based on a partial underestimate of the fall in home prices in 2007 relative to its 2006 peak (as the Case-Shiller data for all of 2007 were not available at the time of that estimate). Thus, the number of households with negative equity could be closer to 12 million. Calculated Risk also estimates that a cumulative fall in home prices of 20% implies 13.7 million households with negative equity while a 30% cumulative fall implies 20.3 million households with negative equity.

These figures are staggering considering that in 2006 the total number of households with mortgages was 51.2 million. So between 20% to 40% of households with mortgages may end up with negative equity in their homes and with a big incentive to walk away from their mortgages. Even the lower bound figure of 10 million households with negative equity (20% of those with mortgages) is huge.

How many additional losses will banks suffer if these many households walk away from their homes? If a bank ends up with a home that is worth less than the value of the mortgage the loss for the bank is at least as large as the difference between the mortgage value and the market value of the collateral. But losses are likely to be even larger: foreclosure is an expensive proposition for banks; and ending up with many properties that are not easily sellable in current illiquid housing markets where there is a glut of homes will imply further losses. Of course, the initial loss from a fall in home prices is taken by the household whose equity is eroded by the fall in home prices. But many of these households had very little equity to begin with; and once the fall in prices leads to negative equity and the borrower walking away from the home the further losses from falling home prices – i.e. all the negative equity in the home – is taken by the bank that originated the mortgage or – in the case of securitization – the investors that eventually bought the RMBS or CDOs related to that mortgage.

What is the size of these losses for financial institutions and investors? Again this is a complex estimate as it depends on how large in the fall in home prices and the recovery rate given default and foreclosure. The only hard estimate that I have found so far is one by Calculated Risk. The way he puts it: "*Assuming a 15% total price decline, and a 50% average loss per mortgage, the losses for lenders and investors would be about $1 trillion. Assuming a 30% price decline, the losses would be over $2 trillion. Not every upside down homeowner will use jingle mail, but if prices drop 30%, the losses for the lenders and investors might well be over $1 trillion (far in excess of the $70 to $80 billion in losses reported so far)*."

What will be the consequence of losses of over $1 trillion and, possibly, as high as $2 trillion? That would wipe out most of the capital of most of the US banking system and lead most of US banks and mortgage lenders – that are massively exposed to real estate – to go belly up. You would then have a systemic banking crisis of proportions that would be several orders of magnitude larger than the S&L crisis, a crisis that ended up with a fiscal bailout cost of over $120 billion dollars. And the worrisome part of this scenario is that – with home prices likely to fall by 20% or more – this scenario of systemic banking crisis is becoming increasingly likely.